

UNDERSTANDING CHINESE MILITARY STRATEGIC THINKING:
THE MESSAGE FROM THE PEOPLE'S LIBERATION ARMY'S
MODERNIZATION AND WEAPONS ACQUISITION PROGRAM

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by

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the US Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

UNDERSTANDING CHINESE MILITARY STRATEGIC THINKING:
THE MESSAGE FROM THE PEOPLE'S LIBERATION ARMY'S MODERNIZATION
AND WEAPONS ACQUISITION PROGRAM, by Major Peng Yao-Zu, 87 pages.

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The findings of this thesis assess that China is acquiring defense related assets both internationally and domestically that support its modernization and increased capability to not only defend its sovereign territory, but to begin to reach out regionally and globally with increased military capability. These acquisitions go beyond current defensive needs and a posture to deter potential regional threats and prerogatives.

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ACRONYMS

AAA	Anti Aircraft Artillery
AAM	Anti Aircraft Missile
APC	Armored Personnel Carrier
ASA	Anti Satellite Missile
ASAT	Anti-Satellite Weapons
ASEAN	Association of Southeast Asian Nations
AVIC-1	China Aeronautics Industry First Group Company
AVIC-2	China Aeronautics Industry Second Group Company
AWACS	Airborne Warning and Control System
BAW	Beijing Automobile Works
C2	Command and Control
C4I	Command, Control, Communication, Computer, Intelligence
C4ISR	Command, Control, Communication, Computer, Intelligence, Surveillance, Reconnaissance
CAC	Chengdu
CAMEC	China Aerospace Machinery and Electronics Corporation
CAMEGC	China Astronautic Mechanical-Electronic Group Company
CASC	China Astronautic Science and Technology Group Company
CASIC	China Aerospace Science and Industry Corp
CCP	Chinese Communist Party
CMI	Civil Military Integration
CNEC	China Nuclear Engineering and Construction Corporation
CNIGC	China North Industries Group Corporation

CNNC	China National Nuclear Corporation
CNP	Comprehensive National Power
COA	Course of Action
COEGC	China Ordnance Equipment Industry Group Company
COIGC	China Ordnance Industry Group Company
CONSTIND	Commission of Science, Technology, and Industry for National Defense
CRI	Congressional Research Institute
CSHIGC	China Shipbuilding Heavy Industry Group Company
CSIGC	China Shipbuilding Industry Group Company
CSSC	China State Shipbuilding Corporation
DoD	Department of Defense
DR	Disaster Response
EU	European Union
FAC	Fast Attack Craft
GAD	General Armament Department
HA	Humanitarian Assistance
ICBM	Inter- Continental Ballistic Missile
IFV	Infantry Fighting Vehicle
ISR	Intelligence, Surveillance, Reconnaissance
KMT	Kuomintang
LACM	Land-Attack Cruise Missile
LLOC	Land Line of Communication
LOC	Line of Communication
MBT	Main Battle Tank
MLRS	Multiple Launch Rocket System

MOOTW	Military Operation Other Than War
MR	Military Region
MRBM	Medium Range Ballistic Missile
MTTI	Ministry of Information Technology and Telecom Industry
NDWP	National Defense White Paper
NEW	Network and Electronic Warfare
NMS	National Military Strategy
NRIST	Nanjing Research Institute on Simulation Technique
NSS	National Security Strategy
ORBAT	Order of Battle
PGM	Precision Guided Munition
PLA	People's Liberation Army
PLAAF	People's Liberation Army Air Force
PLAN	People's Liberation Army Navy
PLANAF	People's Liberation Army Navy Air Force
PLASA	People's Liberation Army Second Artillery
PRC	People's Republic of China
RAV	Reconnaissance Armored Vehicle
RMA	Revolution in Military Affairs
SAC	Shenyang
SAM	Surface to Air Missile
SAR	Synthetic Aperture Radar
SIPRI	Stockholm International Peace Research Institute
SLOC	Sea Line of Communication
SLV	Satellite Launch Vehicle

SPAAGM	Self Propelled Anti Air Gun Missile
SRBM	Short Range Ballistic Missile
UAV	Unmanned Aerial Vehicle
UN	United Nation
US	United States of America
USSR	Union of Soviet Socialist Republics
WIG	Wing in Ground Effect
XAC	Xian

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CHAPTER 1

INTRODUCTION

The rise of China will undoubtedly be one of the great dramas of the twenty-first century. China's extraordinary economic growth and active diplomacy are already transforming East Asia, and future decades will see even greater increases in Chinese power and influence.¹

With one fifth of the world's population, the second largest economy and the largest standing military with over two million personnel, China has rapidly risen and grabbed with world's attention. Its aggressive weapons acquisition program has also raised both the regional and international concerns. China is known for being opaque in terms of official information and its military procurements and status. Therefore, it is important to understand Chinese military strategic thinking and how its military acquisition program supports its defense establishment.

The primary question of this thesis is "Does the People's Liberation Army's (PLA) armament acquisition plan support their military strategy." The four subordinate questions are: What is the PLA's military strategy? What have they purchased from foreign sources? What are they building domestically? How is the strategy supported by PLA's armament acquisition plan?

Before discussing the People's Republic of China (PRC) military planning and how the PLA armament acquisition plan support its strategy it is necessary to examine several definitions of "strategy." According to United States Joint Publication 5-0, a national military strategy defines the national security objectives (i.e., ends), how to

¹G. John Ikenberry, "The Rise of China and the Future of the West," January 2008, <http://www.foreignaffairs.com/articles/63042/g-john-ikenberry/the-rise-of-china-and-the-future-of-the-west> (accessed 5 December 2011).

accomplish these objectives (i.e., ways), and addresses the military capabilities required to execute the strategy (i.e., means).² In戰略學 [*The Science of Strategy*] edited by the Chinese Military Science Institute, strategy is given this definition: “戰略是指導戰爭全局的方略。它是戰爭指導者運用戰爭的力量和手段達成戰爭目的的一種藝術” [Military strategy is the general concept for directing the conduct of war overall. It is the art with which wartime leaders employ military power and means to achieve the objectives of the war.]³ Theoretically, a nation is building its military based on its strategy and by analyzing the relation between strategy and armament acquisition could outline the nation’s genuine intentions. This approach is particularly critical to this research due to China’s opaque nature. The result of this research will not only benefit the Taiwan military but also to those who have great concerns associated with China’s rising.

Widely available information indicates the People’s Liberation Army (PLA) is becoming more robust and now has the world’s second largest defense expenditures. The PLA has transitioned from a large infantry-based, peasant guerrilla army to one of the world’s nuclear capable full-spectrum military forces. Since the establishment of the PRC in 1949, its military has undergone three major transformations. The critical factors that

²Chairman, Joint Chiefs of Staff, Joint Publication (JP) 5-0, *The Joint Operation Planning* (Washington, DC: Government Printing Office, 2006), II-4.

³軍事科學院編著[Chinese Military Science Institute, ed.], 戰略學 [*The Strategy*] (Beijing: Military Science Pub., 1987), 1.

drove each transformation have involved both internal and external concerns.⁴ The strategic military concept of the first period, from 1949 to 1982, was “People’s War” (人民戰爭). During this period, the PRC strategic military concept was heavily influenced by Chairman Mao Zedong.⁵ Mao proclaimed that the only legitimate use of military force was to liberate people from the unfair social circumstances and imperialist control.⁶

There are several military characteristics of this period: a large, poorly equipped land army, with a small supporting navy and air forces; reliance on local militias; and finally, the absolute dictatorship and control of the military by the Chinese Communist Party (CCP). Overall, the primary trend of thought of this period was to focus on the consolidation of internal stability due to the shift in power after winning the Chinese Civil War. Most military equipment acquisition was from domestic sources and through the early 1960s, the Soviet Union. China’s performance against the US in Korea (1950-1953) did not immediately impact China’s strategy as it was seen as a victory, although the value of modern military equipment was not lost on the Chinese leadership and acquisitions from the Soviet Union were increased. However, during the 1960s and 1970s China looked inward as the country was undergoing the Great Proletariat Cultural Revolution for most of this period.

⁴國立中山大學大陸研究所教授兼所長林文程博士 [Professor Lin Wen Chen, National Chung San University, Mainland China Study Institute], 「中共國防軍事戰略」論文 [Peoples Republic of China National Military Strategy], 2.

⁵Ibid., 3.

⁶Ibid.

The primary strategic concept for the second period, from 1982 to 1991 after its costly war with Vietnam in 1979, was conducting People's War under the modernized conditions. This military strategy was mainly directed by the former national leader, Deng Xiaoping. There are several key issues that drove China's strategy during this period. The first view was the need for a modernized force that could conduct combined arms operations to achieve unity of command. The second realization was that nuclear war was unlikely because of its extremely devastating long-term effects. As the result, neither the United States nor the USSR dared to initiate a nuclear conflict. China only needed enough nuclear capability to deter. Third, China had to develop and procure high technology weapons to meet the modernized conditions. These views drove reform in the PLA to create a more capable force to not only stabilize the internal political conditions but defend against external threats.

After 1991 a third period of modernization began. The PLA was impressed by the military capabilities of the US-led coalition in the first Gulf War. This war motivated the PLA to initiate their third transformation which was to become capable of conducting "Regional Warfare under High Tech Conditions" this will be later modified to change high tech into "informationalized" conditions. "This transformation (modernization) process is ongoing and is the situation in China that serves as a basis for the analysis in this paper.

China's Strategy

According to the *2010 United States Department of Defense Annual Report to Congress* regarding military and security developments involving the PRC, there are

three general goals and trends that lead the PLA's force modernization.⁷ They are: (1) anti-access/area-denial capabilities; (2) extended operational reach and power projection beyond Taiwan; and, (3) strategic capabilities. The primary purpose of anti-access/area-denial capabilities is to stop an outside power (the United States) from intervening in the Taiwan contingency by utilizing anti-ship ballistic missiles, conventional and nuclear-powered attack submarines, surface combatants and maritime strike aircraft.

Some new platforms and capabilities that are to be used to extend operational reach and projecting power beyond Taiwan into Central Asia, and into the South China Sea are the People's Liberation Army Navy's (PLAN) first aircraft carrier (a refurbished ex-Russian Kuznetsov-class carrier), advanced surface combatants, long range bombers, heavy transportation aircraft, extended-range precision guided ballistic missiles and air-refueling aircraft.

Finally, in order to meet the political desired end state, China is acquiring more strategic capabilities such as nuclear assets, space weapons (high density laser), anti-satellite weapons (ASAT), T-094 SSBN (JIN-class, newest nuclear powered ballistic missile submarine), to deter any unfriendly regional powers and secure lines of communication (LOC).

The PLA's transformation is known for lacking transparency. It is difficult to clearly grasp China's military strategy by simply reading PRC official documents.

However, this study uses both the US Report to Congress mentioned above and China's

⁷United States Department of Defense, *Annual Report to the Congress: Military and Security Developments Involving the People's Republic of China 2010* (Washington, DC: Government Printing Office, 2010), 22-28.

2010 National Defense White Paper (NDWP). On March 31, 2011, the PRC published its 7th edition of the NDWP. This report states Beijing's national defense policy is "defensive in nature." It also outlines the broad objectives of the Chinese military's tasks. The first task is to "Safeguarding national sovereignty." This is primarily focusing on issues of 臺獨 [Taiwan Independence], 東突 [East Turkistan Independence], and 藏獨 [Tibetan Independence].

The second task is to "maintaining social harmony and stability." This task emphasizes preparations for military operations other than war (MOOTW). China is subject to a variety of natural and man-made disasters. These include those caused by terrorism and public unrest and disaster relief. The third task is to "accelerating the modernization of national defense and the armed forces." In order to facilitate PLA's transformation on mechanization and "informationization" by the year 2020, indigenous research and development are encouraged and supported by the national authorities. The last task listed is "maintaining world peace and stability." This includes participating in United Nation (UN) peace-keeping operations worldwide and includes operations such as the non-combatant evacuation from Libya and maritime escort and counter piracy in the Gulf of Aden.⁸

This next chapter not only discusses these strategies, but the ideas of several academics and analysts who have also examined China's strategy. Chapter 2 will also discuss the methodology used in this study. The bulk of the chapter examines the sources that provide information on what the Chinese military has acquired domestically and

⁸National Council of People's Republic of China, *2010 China's National Defense* (Beijing: Peoples Republic of China, March 2010), Chapter 2.

from foreign sources. In addition, sources that provide information on how China's defense establishment is organized to conduct operations are examined.

CHAPTER 2

LITERATURE REVIEW AND METHODOLOGY

The purpose of this research is to examine what equipment, weapon systems and platforms the PLA has and is seeking to acquire and how these armaments support the PLA's military strategies. This chapter covers the literature pertaining to China military strategy and the equipment acquisition of the PLA. The PLA is composed of the People's Liberation Army (PLA, 解放軍), People's Liberation Army Navy (PLAN, 解放軍海軍), People's Liberation Army Air Force (PLAAF, 解放軍空軍), People's Liberation Army Second Artillery (PLASA, 解放軍二砲部隊) and its other strategic unit such as its cyber forces (網軍). This literature review has two basic sections. The literature and reference materials are unclassified and publically available and accessible.

This first set of documents provided information on the key components of PRC's current military strategies. Sources used in this section include PRC official documents such as the annual *National Defense White Paper* (NDWP) and the US Government's *Department of Defense Annual Report to Congress*. Articles and books on China's defense strategy by scholars like Michael D. Swaine, Ashley J. Tellis, Roger Cliff, Mark Burles, Michael S. Chase, Derek Eaton, Keven L. Pollpeter, James C. Mulvenon and Andrew N.D. Yang (all from RAND Corporation) provided useful background information.

In addition, Taiwan academic publications and Janes's Information Group documents were reviewed especially for strategic thought but also provided information on the PLA's current organization and equipment as part of its overall increasing military

power. This is referred to as “Comprehensive National Power” (CNP) [綜合國力] and is defined as the sum total of the strengths of a country in terms of its economy, military capabilities, science and technology, education, national resources, and its influence regionally. (China Institute of Contemporary International Relations, 2000) CNP is a unique index to measure China’s national power.⁹

The second group of literature reviewed looks primary at sources that provided information the “means” of the Chinese military. References used include the following sources: *The Chinese Armed Forces in the 21st Century* edited by Larry M. Wortzel; *The Chinese Army Today-Tradition and transformation for the 21st century* by Dennis J. Blasko; *China’s Military Modernization-Building for Regional and Global Reach* by Richard D. Fisher Jr.; *Right-sizing the People’s Liberation Army: Exploring the contours of China’s Military* edited by Roy Kamphausen and Andrew Scobell; and, *The PLA at Home and Abroad: Assessing the Operational Capabilities of China’s Military* edited by Roy Kamphausen, David Lai and Andrew Scobell.

Particularly helpful were the perspectives from strategic studies by Jane’s Information Group. In addition, the following sources were used: *Chinese Grand Strategy and Maritime Power* by Thomas M. Kane from University of Hull; *The Great Wall At Sea* by Bernard D. Cole from the US National War College; *Chinese Naval Strategy in the 21st Century-The turn to Mahan* by James R. Holmes and Toshio Yoshihara; and, *Shaking the Heavens and Splitting the Earth-Chinese Air Forces*

⁹Michael Pillsbury, “PLA’s Capabilities in the 21st century: How does China Assess its Future Security Needs?” in *The Chinese Armed Forces in the 21st century*, ed. Larry M. Wortzel (Carlisle PA: Strategic Studies Institute, December 1999), 107.

Employment Concepts in the 21st Century by Roger Cliff, John Fei, Jeff Hagen, Elizabeth Hague, Eric Heginbotham and Stillion from RAND Project Air Force. Several sources were particularly useful in the preparation of this study a more detailed discuss follows.

PRC's current military strategy overview

According to Dana R. Dillion's in *The China Challenge-Standing Strong against the Military, Economic, and Political Threats That Imperil America*, China's military modernization has been incredibly rapid since 1996, outpacing the wildest estimates of the US intelligence community.¹⁰ According to the 2008 China's NDWP, the principle guideline of China's Military strategy is "fighting and winning the local wars under conditions of informatization and building toward integrated joint operations, with a stress on asymmetric warfare."¹¹ With sufficient financial support from its robust economic growth, China is seeking a truly leading role as a world power. Besides signing the political agreements and establishing economic cooperation with other nations, projecting and demonstrating military force is another way to demonstrate its power. According to the 2010 China's NDWP, there are four elements to its national military defense strategy: (1) safeguarding national sovereignty; (2) maintaining social harmony and stability; (3) accelerating the modernization of national defense and the armed forces; and (4) maintaining world peace and stability.¹²

¹⁰Dana R. Dillion, *The China Challenge-Standing Strong against the Military, Economic, and Political Threats That Imperil America* (Lanham, MD: Rowman & Littlefield Publishers, Inc., 2007), 1.

¹¹National Council of People's Republic of China, *2010 China's National Defense* (Beijing: Peoples Republic of China, March 2010).

¹²Ibid.

The US DoD Report is supported by similar language in David M. Finkelstein's *China's National Military Strategy: An Overview of the "Military Strategic Guidance"*, there are five major objectives that PLA intends to accomplish.

1. Defending national territory and sovereignty;
2. Securing the nation's maritime rights and interests;
3. Maintaining the unity of the motherland;
4. Ensuring internal stability;
5. Maintaining a secure and stable external environment, especially on China's periphery¹³

Michael D. Swaine and Ashley J. Tellis in *Interpreting China's Grand Strategy-Past, Present and Future* also addresses China's limited objectives.¹⁴ They argue these are domestic order (including Taiwan), periphery stability, and geopolitical recognition. These objectives may gradually evolve in the direction of more expanded interests requiring that it "exert more control over its surroundings."¹⁵ This study uses the strategy outlined in the US DoD study but is informed by this two addition views.

¹³Roy Kamphausen, Andrew Scobell, and David M. Finkelstein, *Right-Sizing the People's Liberation Army: Exploring the contours of China's Military, China's National Military Strategy: An Overview of the "Military Strategic Guidance* (Carlisle, PA: US Army War College, September 2007), 109.

¹⁴Michael D. Swaine and Ashley J. Tellis, *Interpreting China's Grand Strategy-Past, Present and Future* (Santa Monica, CA: RAND, 2000).

¹⁵Roy Denny, "The 'China Threat' Issue," *Asian Survey*, 36, no. 8 (August 1996): 762.

PLA's current organization and equipment as part of
its Comprehensive National Power

The People's Liberation Army as Organization Reference Volume v1.0 is a very important source of information on PLA acquisitions. It also provides information on the General Armament Department (GAD) which was officially created in April 1998 and led to a significant change in the PLA's organization and command structure. The GAD was created to replace the former Commission of Science, Technology, and Industry for National Defense (CONSTIND) under the guidance of Premier Zhu Rongji due to that agencies poor performance.¹⁶ The GAD was designed to take charge of the former "Big Five" (five huge state-owned defense industrial corporations which produced the majority of China's military arms and equipments) and now the "Big Ten." Supporting this is Michael Pillsbury's *PLA's capabilities in the 21st century: How does China assess its future security needs? The Chinese Armed Forces in the 21st century*. He states that China's strength in 1999 led to speculation of China's focus areas on force modernization and armament acquisition.

According to the Stockholm International Peace Research Institute (SIPRI), China was the world's largest armament import country from 1993 to 2002. The US Congressional Research Institute (CRI) has also indicated that the estimated amount of Chinese armament imports between 1995 and 2002 were 17.8 billion dollars and primarily from Russia. Other than Russia, some European countries, Israel, Ukraine and South Africa also took part in PRC's armament business. Even with domestic military

¹⁶James C. Mulvenon and Andrew N. D. Yang *The People's Liberation Army as Organization Reference Volume v1.0*, at RAND National Security Research Division, 2002, 274.

logistic reform, China's defense industry was still incapable providing for its military needs. Therefore, most of the key components, technologies, materials and weapon systems must be purchased from other nations. In Richard D. Fisher's *China's Military Modernization* talks about the twenty-one particular technologies that China imports from foreign nations and nineteen of these technologies are from Russia which include tactical level items like the main battle tank (MBT) and strategic items like satellite communication. There are fifteen of these technologies imported from Ukraine such as aircraft carrier knowhow and nine of these technologies are from Israel such as cruise missile technology. One of the key technologies that European countries provide to China is helicopter technology. In spite of denials, even the US provided China with six associated laser technologies.

Methodology

The purpose of this research is to understand and analyze the connection between China's armament acquisition plan and its military strategy. The primary question of this thesis is "Does the People's Liberation Army's (PLA) armament acquisition plan support their military strategy." The four subordinate questions are: What is the PLA's military strategy? What have they purchased from foreign sources? What are they building domestically? How is the strategy supported by PLA's armament acquisition plan?

When the PLA's stealth fighter conducted its first test-flight right before US Secretary of Defense Robert Gates's official visit to China, the discussion of China's capability to prevent US from intervening over Taiwan conflict became the center of international attention. However, while many people made assumptions about how this stealth fighter would impact the Taiwan issue, only a few really looked into China's

strategy, anti-access anti-area capabilities and the current status of the situation with Taiwan. It is widely known that the most dangerous course of action (COA) for PLA to invade Taiwan is to conduct a massive amphibious operation with PLAAF and PLAN support. Are PLA's amphibious operational assets sufficient enough to fulfill the mission? Is denying US access to the Western Pacific region with stealth fighters more urgent than obtaining more advanced amphibious operational assets? The same arguments apply to the first PLAN aircraft carrier project. Therefore, understanding the logical connection between what the PLA is acquiring and how do this new equipment supports the military strategy is critical and provide a clearer picture of what is driving PLA's force modernization and where it (PLA) is going.

There are five steps taken to conduct this research: (1) Articulating and contrasting the United States view of China's defense strategy with the Chinese view expressed in its NDWP. Other views on the PRC's current military strategy are also acknowledged. This step includes a visualization of the ends of PLA's military modernization; (2) analyzing the PLA's structural reform and organization for operations; (3) examining the PLA's foreign armament procurement; and (4) examining the PLA's domestic armaments production. Both (3) and (4) are the keys to understand the means available to achieve the military objectives outlined in step 1. Step five (5) comparing and analyzing China's strategy given the available means outlined in steps (3) and (4).

Step One: The PRC's current military strategy

The US's view of China's current military strategy is taken from the *DoD Annual Report to Congress involving the PRC*. This is one of the most significant western sources that has sufficient information about China's current military strategy. The recent

China's NDWP and other Chinese government officials comments help to understand China's military strategy from a different angle. Because China has a reputation of saying "half truths", one might only receive a "broad-brush" type of image about this topic.

Subsequently, other individual and institutional researches are also delved to enhance the broader views on this subject. Finally, cross examining these sources to obtain a much clearer picture of what China is trying to achieve with its military force as one of its national tools.

The US government sources sometimes mirror image, which might bias the findings. Chinese sources usually tend to leave out the most critical portion of the truth, but still have certain credibility. By applying the combination of sources from above, a relatively objective truth can emerge that orients the research on the ends of the PLA's armament acquisition.

Step Two: The PLA structure and organizational reforms

The PLA's logistics organizational reforms which began in 1998 gave the PLA a more systematic approach to its armament acquisition. Establishment of General Armament Division (GAD) and reform in the "Big Five" to the new "Big Ten" under the guidance of Premier Zhu Rongji were two milestones for the PLA force modernization. The role of the seven Military Regions (MRs) is also discussed regarding their designated tasks and what role they play in support of the military strategy.

China's current major weapon systems, platforms and technologies are also described in step 2. The purpose is to review the present PLA status and how it matches up with its military strategy. The policy of reducing the PLA ground forces and augmenting the PLAN and PLAAF may also have an underlying implication. Again, a

combination of primary sources and secondary sources were used for the analysis. This step includes the use of the western studies, China's official documents and other sources.

Step Three: The PLA's foreign procurement

This part of the study reviews the PLA's foreign purchases for its military forces. This includes strategic assets such as nuclear and other advanced technologies. Assessing the PLA's purchase over the last decade may well lead us to the PLA's genuine military intentions. Russia has been the largest military supplier to China. However, other nations also maintain a relatively good military sales relationship with China. Examining the weapon systems and technologies that China purchased holistically may well outline the "ways" of China's armament acquisition plan which connect the ends and the means.

Step Four: The PLA's domestic produced armament

China is trying to build a more robust and efficient domestic defense industry. Approaches include foreign assistance, domestic research and development and espionage. All these approaches contribute to the ultimate goal of establishing the self-reliant defense manufacturing environment. In step 4 looks at the equipment that the PLA acquired domestically since 1990.

Step Five: Comparing China's strategy to its means

There is one Chinese proverb states that "one need the right tools to accomplish the right task [工欲善其事，必先利其器]." In this step, the author compares the assets that China has and will acquire (means) to its strategy from both the western and the Chinese perspectives in order to analyze the supporting relations. This comparison also

illustrates whether the armament acquisition is purposeful and connected to the strategy or has its own logic.

Collectively, these five steps will establish the prerequisites for determining a logical and feasible conclusion. By answering the primary question and secondary questions, a clearer vision of what the PLA is getting and how this equipment supports the military strategy is revealed and may well assist the follow-on research by others.

CHAPTER 3

ANALYSIS PART I

The thesis analysis is divided into chapters 3 and 4. In chapter 3, the author's primary focus is an overview of the "PRC's current military strategy and PLA's current organization and the structure that guides and produces armaments for China. The main reason to look at PLA's strategic overview is to seek the "ends" for PLA's armament acquisition plan. "Ends" by the definition of Joint Publication 5.0 are the national military objectives.¹⁷ By understanding the "ends", we can anticipate the China's objectives and by analyzing the objectives, the logical relationship to arms acquisition is revealed. It is critical to know whether China is linking its military strategy with its armament acquisition. Due to the reputation of opaque defense policy, China's genuine intentions on acquiring advanced military weapons, technologies, platforms and systems still remain ambiguous. Therefore, the most effective method to understand China's true intentions is to analyze its military strategy and make logical assumptions about the armament acquisition plan.

What is strategy?

Before proceeding, the definition of strategy needs to be further elaborated. The US Army War College utilizes a simple but powerful formula to express what a strategy is and what its critical component parts consist of: *Strategy = Ends + Ways + Means*. In this equation "ends" are the objectives or goals, "ways" are the courses of action we

¹⁷Chairman, Joint Chiefs of Staff, Joint Publication (JP) 5-0, *The Joint Operation Planning* (Washington, DC: Government Printing Office, 2006), II-4.

choose to achieve those goals, and “means” are the resources either at hand or which must be developed to enable the courses of action.¹⁸ According to David M. Finkelstein

There are three important aspects of this model. The first is that the three components of a strategy—ends, ways and means—are interdependent. All of the components must be appropriate to the whole and in proper balance with the others if the strategy is to be successful. The second point to keep in mind is that when we attempt to study someone else’s strategy, such as the PLA’s, focusing on only one component of the strategy without an understanding of the other two may lead to incorrect or incomplete conclusions. The third point is the utility of this model as an analytic tool. It is almost universal in its applicability and is not limited to military affairs. One can easily use this equation to craft, describe or analyze political or economic strategies. Also, in the realm of military planning it is applicable across the three levels of warfare—the strategic, operational and tactical levels.¹⁹

Paul Kennedy’s *Grand Strategies In War and Peace*, argues “The crux of grand strategy lies therefore in policy, that is, in the capacity of the nation’s leaders to bring together all of the elements, both military and nonmilitary, for the preservation and enhancement of the nation’s long term (that is, in wartime and peace time) best interest.”²⁰ Based on Robert E. Osgood’s writings, grand strategy is the nation’s plan for using all its instruments and resources of power to support its interests most effectively.²¹

A defense strategy is the military component of a nation’s overall national security strategy (NSS). Its objectives are derived from those within the overarching

¹⁸Colonel Arthur F. Lykke, Jr., USA (ret.), ed., *Military Strategy: Theory and Application* (Carlisle Barracks, PA: US Army War College, 1993).

¹⁹David M. Finkelstein, *China’s National Military Strategy* (Alexandria, VA: The CAN Corporation, 2000), 2-3.

²⁰Paul Kennedy, ed., “Grand Strategies In War and Peace (New Haven: Yale University Press, 1991), 5.

²¹Robert E. Osgood, “American’s Grand Strategy: Patterns, Problems and Prescriptions,” *Naval War College Review* 36, no. 5 (October 1983): 5.

national security strategy (NSS). It is the role of the national military leadership to ensure that the military element of national power will be available to contribute to the NSS in both peace and war, in the here and now and in the future.²²

China's perspective of its own strategy

In the 2010 China's NDWP, four military strategies components are addressed. First was safeguarding national sovereignty. The primary focus is 臺獨 [Taiwan Independence], 東突 [East Turkistan Independence], and 藏獨 [Tibet Independence]. Tibet and Xinjiang autonomous regions have claimed independence for many years. China has also taken extreme approaches to stop them from breaking China's territorial integrity. China's 1959 military offensive drove the Tibetan spiritual leader, the Dalai Lama, and thousands of his followers into India. The PRC established a pro-Chinese government administration in Tibet that it maintains today with military force.

China also used military pacification measures in Xinjiang. The PRC continues to see unrest in western China as a significant threat and a possible center of Islamic terrorism. However, the Taiwan issue is more complicated and difficult to resolve because Taiwan has been operating as a sovereign state since Chiang Kai-shek's and the Kuomintang (KMT) established itself on the island in 1949. The Anti-Secession Law published in March 2005 by the 10th National People's Congress, authorized the uses of any non-peaceful means to prevent Taiwan from pursuing Independence.²³ 第八條 “臺

²²Ibid., 2-3.

²³Xinhua News, “China,” 14 March, 2005, http://big5.xinhuanet.com/gate/big5/news.xinhuanet.com/tai_gang_ao/2005-03/14/content_2694168.htm (accessed 17 September 2011).

獨”分裂勢力以任何名義、任何方式造成臺灣從中國分裂出去的事實，或者發生將會導致臺灣從中國分裂出去的重大事變，或者和平統一的可能性完全喪失，國家得採取非和平方式及其他必要措施，捍衛國家主權和領土完整。[Article 8].

Translation [In the event that "Taiwan independence" secessionist forces should act under any name or by any means to cause the fact of Taiwan's secession from China, or that major incidents entailing Taiwan's secession from China should occur, or that possibilities for a peaceful reunification should be completely exhausted, the state shall employ non-peaceful means and other necessary measures to protect China's sovereignty and territorial integrity].²⁴ The range of courses of action (COA) that China could conduct against Taiwan, according to the 2010 US *DoD Annual Report to Congress* are: Maritime Quarantine or Blockade; Limited Force or Coercive Options such as computer network or limited kinetic attacks against Taiwan's political, military and infrastructure to induce fear among the populace; Air and Missile Campaign; and Amphibious Invasion.²⁵ The extreme option invading the island would require adequate amphibious assets for the operational success—a prime example of a necessary equipment acquisition to meet a strategic need.

The second strategic task is maintaining social harmony and stability. The main focus is on preparations for domestic military operations other than war (MOOTW), such as counter terrorism, and disaster relief. China's terrorism often involves Muslim

²⁴Anti-Secession Law adopted at the Third Session of the Tenth National People's Congress in Beijing.

²⁵United States Department of Defense, *Annual Report to the Congress: Military and Security Developments involving the People's Republic of China 2010* (Washington, DC: Government Printing Office, 2010), 51.

separatist militants in the Xinjiang Uyghur Autonomous Region and other locations with large Muslim populations. The Ministry of Public Security issued a list of banned terrorist organizations on 15 December 2003 which includes the “Eastern Turkestan Islamic Movement”, “the East Turkestan Liberation Organization”, “the World Uyghur Youth Congress”, and “the Eastern Turkistan Information.”²⁶

China’s natural disasters have a history. During the past two decades, devastating natural disasters such as flood at Yangtze River in 1998 and a severe earthquake in Sichuan province in 2008 have taken thousands of lives and created significant property losses. Both catastrophes have also involved large-scale Chinese military disaster relief efforts. The concept of utilizing the PLA forces for disaster relief originated from Chairman Mao’s guidance and is in keeping with the tradition of the nation’s armed forces being from the people. Mao believed the military could only gain legitimacy from popular support; therefore helping people with crop-harvesting and disaster-relief are part of the PLA’s missions. However, the PLA’s reputation was severely damaged during the Tiananmen Square massacre in 1989 and in order to regain the populace trust, China has heavily involved its military force with disaster relief efforts.

The third strategic tenet is accelerating the modernization of national defense and the armed force. The primary goal is to accomplish mechanization and attain major progress in informationization by 2020.²⁷ Inspired by the Iran-Iraq war of the 1980s, the 1991 Gulf War and the Kosovo Conflict of 1999, China increasingly studied high-

²⁶Xinhua News, “China,” 15 December, <http://news.sohu.com/2003/12/15/87/news216938797.shtml> (accessed 17 September 2011).

²⁷National Council of People’s Republic of China, *2010 China’s National Defense* (Beijing: Peoples Republic of China, March 2010).

technologies as a revolution in military affairs. One strategic concept which was derived from these war lessons and widely written in China's doctrine is to "win the limited (regional) war under informatizational conditions" [打赢信息化条件下局部战争]. In order to achieve this strategic objective, China is studying the joint and combined arms operational theories that combine high-technology weaponry, new operational strengths, a joint and combined arms operational framework using talented and trained personnel, and constructing full scale logistic capabilities.²⁸

The fourth and final strategic tenet is maintaining world peace and stability. Primary examples of this are participation in UN peace-keeping operations outlined in the table below, and ongoing maritime escort and counter-piracy in the Gulf of Aden.²⁹ Table 1 shows the UN missions that China has been involved between 1990 and 2004.

²⁸National Council of People's Republic of China, *2010 China's National Defense* (Beijing: Peoples Republic of China, March 2010).

²⁹*Ibid.*

Table 1. China's involvement in UN missions between 1990 and 2004

Mission	Number of force	Time
UN Cease Fire Observation Group	66	April 1990
UN Iraq-Kuwait Observation Group	161	April 1991
UN West Sahara Referendum Mission	214	April 1991
UN Cambodia Provisional Government Mission	97 (additional 800 civilian employee)	December 1991 to September 1993
UN Mozambique Operation	20	June 1993 to December 1994
UN Liberia Observation Group	33	November 1993 to September 1997
UN Afghanistan Special Mission	2	May 1998 to January 2000
UN Republic of Sierra Leone Observation Group	24	August 1998
UN East Timor Provisional Government Mission	178	January 2000
UN Ethiopia and Eritrea Mission	15	October 2000
UN Bosnia Herzegovina	20	January 2001
UN Republic of Congo Mission	20 (additional 175 employee in April 2003, additional 43 medical employee)	April 2001
UN Liberia Mission	60 (additional 180 employee in March 2004)	December 2003

Source: John Hill, "China Takes on Major Peacekeeping Role," *Jane's Intelligence Review* (November 2003): 50-51.

In March 2009, PRC peacekeepers employed advanced robot detectors for demining along the southern Lebanese border. However, sending PLAN combatant ships to the Gulf of Aden in 2008 to conduct counter-piracy mission was a milestone for PRC's peacekeeping missions. This significant event revealed the PRC's attempts to project forces to greater distances than the second island chain. This is a concrete example of the PLA's acquisition of force projection assets.

US's perspective of China's strategy

In the 2010 *US DoD Annual Report to Congress* addressed China's emerging strategy. The first tenet is anti- access/area denial by utilizing joint counter air, sea and space capabilities. Arguably, the PLA has identified the center of gravity for the Pacific region security as the US military forces presence and ability to surge into the area. There are significant numbers of US military bases located in the Asia Pacific area including significant forces forward deployed in South Korea and Japan in addition to forces in Guam, Hawaii, and Alaska. This structure that has essentially been in place since the end of the Second World War supports US regional interests.

The majorities of countries in this region are closely allied or friendly to the US and could provide additional base access in time of war or crisis. This phenomenon directly or indirectly undermines the China's influence in this region. Thus, effective anti access/area denial from potential US force insertion is critical to PRC's strategic thinking.

The second tenet is to extend the operational reach and power projection beyond Taiwan into Central Asia and South China Sea.

In the wake of President Hu Jintao's promulgation of the "historic missions of the armed forces in the new period in the new century" (新世紀新階段我軍歷史使命) or "new historic missions" for the PLA in 2004, China has engaged in a variety of missions abroad, including counter-piracy operations in the Gulf of Aden, disaster relief in Haiti, and non-combatant evacuation operations in the Kyrgyzstan.³⁰

³⁰Jeffrey Engstrom, "PLA's Growing Force Projection Capabilities," The Jamestown Foundation, http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=37295&tx_ttnews%5BbackPid%5D=25&cHash=23a98efe4e (accessed 5 November 2011).

China has invested in energy assets and resources in more than fifty countries, ranging from Middle East, Africa, Central Asia, Latin America and Caucasus regions. These major lines of communication (LOC), both land-based and sea-based, need to be secured from any potential threat to ensure persistent national profit. Therefore, force-projection by China to these areas is the most reliable approach to achieve the objective.

As China increases its integrations with global economic activities, force projection is becoming more critical to its national power expansion. This strategic thinking allows China to conduct non-combatant evacuation, peace keeping operation, humanitarian assistance (HA), disaster response (DR) and lines of communication (LOC) protection around the world.³¹

The PLAN's counter piracy operation at the Gulf of Aden in 2008 is an example of China's force projection capability development. In this particular mission, China sent a flotilla of two destroyers and one supply ship to protect its national cargo ships. This significant mission not only gave the PLAN blue-water operational experience but also raised the international concerns regarding PLAN's modernization. Another good example of China's non-combatant force projection is the evacuation of merely 1,300 Chinese nationals from Kyrgyzstan's ethnic unrest using a total of nine chartered flights in 2009.³² These examples reinforce China's commitment to ensure its national interests are underpinned with military force projection.

In order to efficiently and effectively project forces to any desired regions, the PLA must acquire assets to fulfill this strategic requirement. By service, the PLAAF is

³¹Ibid.

³²Ibid.

acquiring fourth generation fighters air-refueling capabilities, and long range transportation aircraft while the PLAN is refitting its first operational aircraft carrier by modifying the former Ukraine *Varyag*. Both facts show that PRC is actively expanding its effective operational range.

To improve ISR capability, the PLA is also acquiring the Jianbing/Haiyang series of electro-optical and synthetic aperture radar (SAR) reconnaissance satellites and Tianlian data relay satellite surveillance. This equipment acquisition plan has shown that China's force projection is multi-dimensional.³³ Thus, the operational reach is achieved once the ability and adequate platforms of force projection are ready.

The third tenet is the development of strategic capabilities to deter or attack an adversary's center of gravity and high value target in order to win the regional war under the high technology condition. China's space and network and electronic warfare (NEW) capabilities are two significant examples to illustrate this strategic tenet.

China has become a significant strategic competitor to the US given its dramatic economic growth, increasing military budget and modernization. The same competition is also taking place within the realms of space. In July 2006, the Hong Kong journal *Chien-Shao* published an article, claiming that China is secretly preparing a "space war experimental team" that could generally develop into the "space force."³⁴ One major Chinese document, "*The Science of Military Strategy*" also stated that, "It seems that space warfare will be inevitable in future wars and that space offensives are likely to be a

³³Ibid.

³⁴Richard D. Fisher, *China's Military Modernization* (London: Praeger Security International, 2008), 79.

new strategic offensive pattern in the future.”³⁵ Despite China’s public stance on restricting weapons in outer space, it has never stopped developing an offensive capability and mentality. This was shown when China shot down one of its unserviceable meteorological satellites with a ground-based missile in 2007.

China’s offensive space developments are closely related to the China’s central strategic concept which is “informationization.” Satellite communication and space technology not only support the intelligence, surveillance and reconnaissance (ISR) effort, but also are critical means to dominate information warfare and cyber operations against the US, Taiwan and other potentially hostile nations. The PRC is actively seeking an “assassin mace” capability to blindfold the US’s military C4I capability, and the anti-space program perfectly matches this requirement.

The network and electronic warfare (NEW) initiative employing electronic warfare, cyber operations, and kinetic-strikes on an adversary’s battlefield information systems to disrupt its war fighting and power projection capabilities is a critical capability.³⁶ This integrated NEW is addressed as the future model of joint operations in many PLA doctrines.³⁷

The concept of “integrated electronic and network warfare (NEW)” is a new operational concept compared to other conventional war powers, however, it is being adopted as part of the PLA’s force modernization. According to one Taiwan Navy

³⁵Ibid.

³⁶United States Department of Defense, *Annual Report to the Congress: Military and Security Developments involving the People’s Republic of China 2010* (Washington, DC: Government Printing Office, 2010), 22-27.

³⁷Ibid., 25.

commander's view on PLA's NEW attack options in 2008, he stated that PLA's dense NEW assets are to detect and jam Taiwanese anti-air early warning facilities.³⁸ The "East China Electronic Warfare Network" has also given the PLA NEW troops in Zhejiang and Fujian an integrated capabilities to focus on Taiwan.³⁹

It is obvious that China's military strategy has evolved from a concentration on domestic stability to regional security. In addition, a more robust capability to protect global interests is emerging. This trend of thought is driving the PRC's force acquisition plan. One can argue the key difference of China's stated military strategy from the US's perspectives and China's point of view is the characterization of offensive versus defensive. The US view is that China is developing a more offensive, force projection strategy. China continues to argue that its objectives are more domestically oriented and defensive in nature.

PLA's current structure and organization for arms acquisition and operations

The phrase "comprehensive national power" (CNP) was invented in 1984 inspired by the ancient Chinese strategists Sun-Tzu, Wu-Tzu and Guan-Tzu and has its cultural roots in Chinese ancient statecraft.⁴⁰ CNP emphasizes combining hard power (military) and soft power (non-military strengths). According to Wu Chunqiu, an author in "*The*

³⁸Hsu Keng-wei, "How to effectively Counter the PRC Military's Electronic Warfare Attacks," *Taipei Haijun Hsuehshu Yuehk'an*, 22 April 2008.

³⁹Ibid.

⁴⁰Michael Pillsbury, "PLA's Capabilities in the 21st century: How does China Assess its Future Security Needs?" in *The Chinese Armed Forces in the 21st century*, ed. Larry M. Wortzel (Carlisle PA: Strategic Studies Institute, December 1999), 107.

Chinese Armed Forces in the 21st Century” by Larry M. Wortzel and James R. Lilley, “Calculating CNP can aid a nation not just for war but also to “coordinate a political and diplomatic offensive, to psychologically disintegrate the enemy forces and subdue them.”⁴¹ This section describes the current PLA organization and its armaments acquisition structure. To achieve a higher of level CNP requires a comprehensive and sophisticate management and procurement system. The most recent, and perhaps most sweeping, reorganization of the defense industries took place in 1998.⁴² In addition to the creation of General Armament Department (GAD) which is a new body to oversee all military industries and that replaced the Commission on Science, Technology, and Industry for National Defense (COSTIND), the five ministerial-level corporations were reformed into ten new corporate bodies and enterprise conglomerates.⁴³

The GAD was also given the mission to take charge of the “Big Ten.” These corporations include industries producing equipment for the PLA, PLAN, PLAAF, Space, Nuclear and Ballistic missiles.

The ten corporations (Big Ten) are the China National Nuclear Company (CNNC), China Nuclear Industry Construction Group Company (CNEC), China Aeronautics Industry First Group Company (AVIC-1), China Aeronautics Industry Second Group Company (AVIC-2), China Ordnance Industry Group Company (COIGC), China Ordnance Equipment Industry Group Company (COEGC), China Shipbuilding

⁴¹Ibid., 108.

⁴²David Shambaugh, *Modernizing China’s Military-Progress, Problems and Prospects* (University of California Press, 2002), 233.

⁴³Ibid.

Industry Group Company (CSIGC), China Shipbuilding Heavy Industry Group Company (CSHIGC), China Astronautic Science and Technology Group Company and China Astronautic Mechanical-Electronic Group Company (CAMEGC).⁴⁴ These key assets will be discussed in more detail later in the study.

Besides the “Big Ten”, the GAD also takes charge of the teaching and research institutions and the main export-import firm, “新現代” [XinXiandai] (New Modernity). The primary purpose of creating GAD is to more efficiently facilitate armament procurement both domestically and internationally and to meet the PLA’s needs for ensuring national interests and conducting military strategy.

Since 1949 the PLA has been organized under a system of military regions. The number and geographic coverage as change several times. The current seven Military Regions (MRs) in the PLA were established in accordance with mission orientation, strategic considerations and operational requirements. The primary missions of these MRs include: plan and organize for operations; command and control (C2) joint operations; and, provide joint logistics support within the region. They are also responsible for military training, political affairs, administration and combat service support within the region. These headquarters command regional militias, direct service policies, mobilize reserves and conduct battlefield management.

⁴⁴Ibid., 277.



Figure 1. China's 7 Military Regions

Source: United States Department of Defense, *Annual Report to the Congress: Military and Security Developments involving the People's Republic of China 2010* (Washington, DC: Government Printing Office, 2006).

Figure 1 illustrates China's seven Military Regions and their strategic locations. This structure is primarily oriented on the defense of China from foreign aggression. Each region as specifically assigned areas of responsibility. The primary missions of the Beijing MR (Capital and northern China) are to prevent the invasion from Russia and Mongolia, and to safeguard the capital. This region requires modern convention ground

equipment such as artillery, main battle tank, rocket launchers, short-range land to land guided missile and Army aviation. Beijing MR is land-battle focused because of the potential threat from the north; therefore, it must be equipped with the best anti-tank assets, mechanized mine-laying systems, and long-range guided ballistic missile.⁴⁵

Shenyang MR's (north east China) primary missions are safeguarding key heavy industries, preventing Russia's invasion, reinforcing North Korea in case of conflict with South Korea and the United States or collapse. In addition this MR must be ready to reinforce Beijing MR as required. The main effort of Shenyang MR is to retain the invaders and wear them, thus modern and capable field artillery and mechanized forces are critical.⁴⁶

Jinan MR (eastern China, North Sea Fleet) plays the role of general strategic reserve and reinforcement of defense forces in case of conflict with Japan and or conflict on the Korea peninsula. The primary missions are securing the major avenue of approaches from the port of Tianjin to Beijing and ensuring the security of Bohai Gulf area, which is an important economic zone. This MR also assumes the role of general strategic reserve to rapidly reinforce other MRs. Jinan MR is capable of projecting one division in 24 hours, one corps in 72 hours to anywhere in the mainland. Other missions include blockading the Bohai Gulf when needed, reinforcing Nanjing MR's actions

⁴⁵嚴兆華／青年日報 96 年 12 月 2 日 第 4 版 [Yen Tsauhua, *Youth Daily News*, Ministry of National Defense, Republic of China, 9 December 2007].

⁴⁶莊水平／青年日報 96 年 12 月 9 日 第 4 版 [Tsuan Suaping, *Youth Daily News*, Ministry of National Defense, Republic of China, 9 December 2007].

against Taiwan and lastly providing reserve forces for Beijing MR's actions against Russia.

Based on the Jinan MR's mission requirements, mobility and maneuverability are the keys, hence mechanized assets are critical. Jinan MR is also the primary MR for the new PLA strategic policy to conduct electronic and information warfare. The integration of conventional forces and "informationization" force gives Jinan MR a more robust joint operability. The ultimate goal for Jinan MR is to build an integrated three dimensional light force with rapid-action, precision-fire and greater fire power capabilities. The North Sea Fleet headquartered in Jinan MR is also responsible for maritime interests in any contingency involving Japan and South Korea.⁴⁷

Chengdu MR (southwest China, Tibet) is responsible for China's sovereignty over the southern borders and regional stability. Operational tasks include: ensure security over the greater southwest region; provide strategic support to Pakistan by deterring India; supporting Burma and Bangladesh, and to secure the LOCs in the south-central Asian region. This MR is also responsible to monitor activities in the Malacca strait SLOC and coordinate with Guangzhou MR for a coherent force to deal with problem in Southeast Asia. Chengdu MR's ground forces include aviation forces and mountaineer brigades. These units maintain operational experience in mountain warfare and jungle operation based on the needs identified by the PLA in its wars with Vietnam

⁴⁷蔡和順／青年日報 96 年 12 月 16 日 第 4 版 [Tsai Hohsuen, *Youth Daily News*, Ministry of National Defense, Republic of China, 9 December 2007].

in 1979 and India in 1962. Chengdu MR is actively seeking a transition to more air-ground combat capable force for the future.⁴⁸

Guangzhou MR's (southern China, South Sea Fleet) principle focus is Vietnam and South China Sea and states that have claims in the region. Its primary wartime mission is to conduct offensive operations against Taiwan with Nanjing MR and deal with instability in the countries of the Association of Southeast Asian Nations (ASEAN). The recent sovereignty dispute with Vietnam and the Philippines is under Guangzhou MR area of responsibility. The South Sea Fleet in Guangzhou MR also has responsibility to secure the strategic resources in the South China Sea and reinforce Hong-Kong and Macau.⁴⁹ The new PLAN navy base in Hainan Island provides underground facilities that facilitate the access for a mix of attack and ballistic missile submarines and advanced surface combatants. This navy base gives the PLAN capability to project stealthy maritime combat power to any critical area in the South China Sea, and arguably into the Indian Ocean area.

Lanzhou MR (western China, Xinjiang) has three primary missions: maintain the regional border security, suppressing regional separatists in Xinjiang and Tibet, and secure the land line of communication (LLOC) to and through the "stans" and Russia.⁵⁰ The northwest portion of China has unique features that include the potential for

⁴⁸郭志強／青年日報 96 年 12 月 23 日 第 4 版[Kuo Chichian, *Youth Daily News*, Ministry of National Defense, Republic of China, 9 December 2007]

⁴⁹劉宜友／青年日報 96 年 12 月 30 日 第 4 版 [Liu Yeyu, *Youth Daily News*, Ministry of National Defense, Republic of China, 9 December 2007]

⁵⁰陸軍聲／青年日報 97 年 1 月 6 日 第 4 版[Lu Junshen, *Youth Daily News*, Ministry of National Defense, Republic of China, 6 January 2008]

terrorism among the Muslim population and the rich reserve of natural resources in this region. The majority of forces in the Lanzhou MR are conventional with outdated armament. However, as a result of the increasing tension from the Xinjiang turmoil, the PLA is increasing troops number and modernizing their equipment. Lanzhou MR also contains a specially constructed training facility. The PLAAF trains to attack Taiwan's Hualian Air Force Base using an actual mockup. Though Lanzhou MR's mission is more domestically oriented, it is still part of PLA force modernization and is part of the PRC's weaponry acquisition plan.

Nanjing MR (Taiwan, East Sea Fleet) is purposely tasked to conduct offense operations against Taiwan. Amphibious operations and counter amphibious operations are two major training subjects. Nanjing MR is capable of blockading the Yangtze River avenue of approach when needed, and furthermore to conduct area denial over the Taiwan Strait. It is also capable of establishing the strategic deterrence against Japan and other nations that plan to intervene in Taiwan conflict. The 1996 Taiwan missile crisis was conducted by the 31st Group Army and Jinan strategic reserve forces.⁵¹ Nanjing MR assets such as, high mobility self-propelled artillery, amphibious armor assault vehicles, shore-based anti-ship missiles, and modified amphibious assault ships with rocket and artillery assets onboard have all been upgraded over the last several years.

This quick overview of PLA's seven MRs, provides information about their intentions and the key assets they must have to achieve their military objectives. Despite their current weapons status and the wide variety of missions and threats that they face,

⁵¹嚴兆華／青年日報 96 年 12 月 2 日 第 4 版 [Yen Tsauhua, *Youth Daily News*, Ministry of National Defense, Republic of China, 9 December 2007]

they are all part of the PLA force modernization process and are all receiving new equipment. This chapter has discussed the PLA organization structure for obtaining new armaments and provided an overview of its organization for conducting operations. What the PLA needs to conduct its strategy has been outlined.

CHAPTER 4

ANALYSIS PART II

Speaking in 2009, Liang Guanglie, China's Minister of Defense, laid out a hugely ambitious plan to modernize the People's Liberation Army, committing China to forging a navy that would push past the islands that ring China's coasts, an air force capable of a combination of offensive and defensive operations, and rocket forces of both nuclear and conventional striking power.⁵²

Since the beginning of the third military modernization in 1991, the PRC has devoted a tremendous amount of effort and expenditure on acquiring advanced military technology and equipment to meet the politically-driven military end states. These include an effective deterrence posture against independence on Taiwan; reassuring the sovereignty and legitimacy over the South China Sea; sustaining force projection beyond the Asia; and, strategically employing assets against any potential adversary (most likely the US) to affect its national interests globally.

Impacted by the collapsed of the former USSR in 1990 and the successes of the US in the 1991 Gulf War, it has come to the PRC leaderships' attention that a "Revolution in Military Affairs" (RMA) had to be seriously considered in response to the rapidly changing global environment and strategic needs. There is another key factor inducing this change, the 1996 Taiwan Strait missile crisis. Two US carrier battle groups were sent into the area to deter PLA's further provocation and this significant event has manifested PLA's weakness regarding operational superiority and specifically on naval warfare. The PLA ground force used to dominate funding, personnel, and leadership

⁵²John Pomfret, Staff Writer, "Military Strength is eluding China," *Washington Post*, 25 December 2010, "<http://www.washingtonpost.com/wp-dyn/content/article/2010/12/24/AR2010122403009.html> (accessed 28 September 2011).

positions primarily because of the conventional threats from adjacent bordering countries and two domestic threats from Tibet and the Xinjiang autonomous regions. However, as the persisting tension in the Taiwan Strait and the sovereignty issue over the South China Sea continue, the PLAN and PLAAF are increasingly involved.

These factors help explain the theory of “balance of operational capacity over three services” and also drive the modernization process and armament acquisition concept. According to *Jane’s Sentinel Security Assessment- China and Northeast Asia*, the 12th Five Year Plan (2011-2015) of PLA will be acquiring capabilities for:

1. Space surveillance and warfare systems;
2. New large intercontinental ballistic missiles (ICBMs);
3. Fifth generation fighters and weapons;
4. Aircraft carriers and larger escort ships;
5. Helicopter amphibious assault ships;
6. Third generation nuclear attack submarines;
7. Helicopters fulfilling naval assault, heavy lift and airborne early warning roles;
8. Heavy transport aircraft;
9. Naval fighters.⁵³

The two major sources of PLA acquisition are domestic production and foreign purchases. This chapter has three sections, “Chinese foreign armaments purchases,” “Chinese domestic armament production” and then provides a detailed breakdown of this acquisition by service.

⁵³Jane’s Sentinel Security Assessment- China and Northeast Asia, “Procurement China,” 17 January 2011.

Chinese foreign armaments purchases

According to the Stockholm International Peace Research Institute (SIPRI), China was the world's largest armament import country from 1993 to 2002. There were over 11.8 billion US dollars worth in military equipment, systems and technologies imported to China during this period of time.⁵⁴

The US Congressional Research Institute indicated that the estimated amount of Chinese armament imports from 1995 to 2002 was 17.8 billion dollars. Other than Russia, the primary weapons sources for China were some European countries, Israel, Ukraine and South Africa. Some export critical technologies and others export key components or even the entire systems or platforms. Table 2 enumerates the major PLA Weapons packages purchased since 1990.

⁵⁴陳漢華，「短期內中共科技在國防安全面向的趨勢評估」[Dr. Chen Han-Hua, The assessment of People of Republic China's National defense technologies application in the near term, 中華民國外交部[Republic Of China Ministry of Foreign Affairs], 13 August 2004.

Table 2. Major PLA Weapons Packages Purchased Since 1990

300+ Sukhoi fighters by 2007, many upgraded for multirole missions
Thousands of Russian antiair and precision ground-attack weapons for aircraft
Twenty Russian IL-76 heavy transport aircraft; thirty-eight more ordered
About 1,000 Russian S-3000 PMU/PMU2 SAMs
Twelve Russian Kilo submarines, eight with Club long-range antiship missiles
Four Russian Sovremenniy Class missile destroyers
Russian weapons and electronics packages for four new class of stealthy warships
A Russian-Ukraine aircraft carrier to serve as a transitional platform for the PLAN
Russian 1-meter electro-optical and radar satellite technologies
Partnership in the European Galileo navigation satellite system
Over 200 Russian Mi-17 helicopters
Co-development of an 8-ton helicopter with Europe's Eurocopter

Source: Richard D. Fisher, *China's Military Modernization* (London: Praeger Security International, 2008), 90.

The former Soviet Union provided the PRC with military weaponry for all the services. Though several temporary suspensions took place including the early 1960s, 1989, and 2007 because of the Sino-Soviet split, the Tiananmen Square Massacre and other national interest conflicts between China and Russia, Russia resumed its arms sale soon after and remains the biggest armament supplier for China.⁵⁵ Israel began to export

⁵⁵Richard D. Fisher, *China's Military Modernization* (London: Praeger Security International, 2008), 89.

weapons and technology in 1970, but this effort was terminated under pressure from Washington.⁵⁶ Following the separation of Russia and the Ukraine in 1991, there was a military sales competition involving both of these countries. China took advantage of this opportunity to request arms sale from Kiev and successfully acquired many advance technologies, assets and related training which includes space technology, liquid-fuel rocket engines, the aircraft carrier, optical guidance systems, astronaut's trainings, electronic warfare and many other component. Ukraine may only have contributed 1 to 2 billion dollars worth of arms sales to China, but most of these products are critical for PLA's strategic advancement.

Other European nations started their arms market with the PRC in the late 1970s and into early 1980s to compete with the US and Israel. Defense electronics and helicopters are two major technologies sold to the PRC. However, due to the European sanctions on China in 1989 that resulted from the Tiananmen Square massacre this relationship was temporarily suspended. South Africa has maintained a small but effective arms sale relationship with China since 2000. PLA has benefited from South Africa technology on unmanned aerial vehicles (UAV) and advanced A-Darter antiaircraft missiles (AAM). China has produced a radar-guided missile that is replicated from the Denel A-Darter antiaircraft missile (AAM). These fifth generation AAMs greatly enhance the PLAAF aerial combat capability.⁵⁷ Table 3 illustrates a number of international sources for high technology to the PLA.

⁵⁶Ibid.

⁵⁷Ibid., 97.

Table 3. Foreign Sources for PLA High Technology (include sales, commercial cooperation and espionage)

	Russia	Ukraine	Israel	Europe	US
Microsatellite Technology				YES	
Radar satellite Technology	YES	Possible			
Electro-Optical Satellite Technology	YES	Possible	Possible	Possible	
Communication Satellite Technology			YES	YES	YES
Missile Technology	YES	YES			YES
Manned Space Technology	YES	YES		Possible	
Cruise Missile Technology	YES	YES	YES		YES
Laser Technology	YES	Possible		YES	YES
Combat Aircraft and Related Technology	YES	YES	YES	YES	YES
Military Aircraft Engines Technology	YES	YES		YES	
Aircraft Weapons	YES	YES	YES		
Airborne Warning and Control System (AWACS)/Synthetic Aperture Radar (SAR)Technology	YES	YES	YES	YES	YES
Submarine Technology	YES		YES	YES	
Submarine Weapons	YES				
Aircraft Carrier Technology	YES	YES		YES	
Warship Technology	YES	YES		YES	
Tank Technology	YES	YES	YES	YES	
Antitank Technology	YES	YES	YES	YES	
Helicopter Technology	YES			YES	YES
Advanced Communication	YES			YES	YES
Electronic Warfare/Intelligence	YES	Possible	YES		

Source: Richard D. Fisher, *China's Military Modernization* (London: Praeger Security International, 2008), 96.

Chinese domestic armaments production

The strategic guidance on building the Chinese defense industry is in the “civil military integration (CMI)” document, which utilizes civilian resources to assist PLA in weaponry research and development. This is critical in overcoming technological difficulties and challenges.⁵⁸ According to Richard A. Bitzinger, associate professor from the Asia-Pacific Center for Security Studies at Honolulu Hawaii,

Civil-military integration (CMI) is the process of combining the defense and civilian industrial bases so that common technologies, manufacturing processes and equipment, personnel, and facilities can be used to meet both defense and commercial needs.⁵⁹

CMI is the main approach that China was to break through the armament embargo which was placed by the US and EU. It is also the major way of supporting its domestic defense industry. Since the major logistics structural reform in 1998 (the establishment of General Armament Department), the PRC has endeavored to build a self-reliant “indigenous” defense industry not only for PLA usage, but also to compete in the international arms market. In the paragraphs below the role of China ten major arms producing corporations are outlined.

The Ministry of Information Technology and Telecom Industry (MTTI) is a combination of the Ministry of Posts and Telecommunications which is responsible for regulation and development of the postal service, Internet, wireless, broadcasting, communications, production of electronic and information goods, software industry and

⁵⁸Roy Kamphausen, David Lai, and Andrew Scobell, ed., *The PLA at Home and Abroad-Accessing the Operational Capabilities of China’s Military*; Eric Hagt, “Emerging Grand Strategy for China’s Defense Industry Reform,” 2010, 481.

⁵⁹Richard A. Bitzinger, “Civil-Military Integration and Chinese Military Modernization,” *Asia-Pacific Center for Security Studies* 3, no. 9 (December 2004).

the promotion of the national knowledge economy.⁶⁰ This organization is an illustration of the role of CMI in supporting both military and non-military users.

China National Nuclear Corporation (CNNC) is responsible for building nuclear assets which include military and non-military applications. China First Aviation Industry Corporation (AVIC-1) produces fighters, bombers, transport aircraft, advanced training jets, and commercial airliners.⁶¹ This is another example of civil military integration (CMI) in practice. Products of the China First Aviation Industry Corporation (AVIC 1) include J-7, J-10, FC-1, J-8, J-11, FT-7, UAVs, H-6, JH-7 and MA-60. China Second Aviation Industry Corporation (AVIC-2) mainly produces helicopters, light-transport aircraft, Y-8, K-8, L-15, wing-in-ground-effect (WIG) vehicle (an aerial vehicle that flies near the surface with assistance from unique aerodynamic properties; a transition between a hovercraft and an aircraft) and virtual flight.⁶²

China North Industries Group Corporation (CNIGC) has about 300 production lines. It is responsible for building main battle tanks, armored vehicles, small arms, ammo, artillery, antitank missiles, trucks, and support equipment.⁶³ Its primary customer is the PLA ground forces. Also primarily supporting the ground forces, there are about 76 factories in China South Industries Corporation (CSIGC) that produce cars, trucks,

⁶⁰Chinese Government's Official Portal, "http://www.gov.cn/english//2005-10/02/content_74176.htm" (accessed 28 September 2010).

⁶¹Fisher, *China's Military Modernization*, 98.

⁶²*Ibid.*

⁶³*Ibid.*

motorcycles, ordnance, and motors for PLA. They also conduct research for military purposes.⁶⁴

China State Shipbuilding Corporation (CSSC) controls the southern shipyards and naval enterprises in Guangdong, Jiangxi, Anhui, and Shanghai which produces submarine, destroyers, frigates, intelligence collection platforms, and a wide range of civilian ships.⁶⁵ CSSC is once again an example of civil military integration (CMI) in practice. China State Shipbuilding Industry Corporation (CSIC) is in charge of yards in Yunnan, Dalian, Hubei, Tianjin, Shanxi, and Liaoning. It has about ninety-six branch companies producing frigates, and smaller surface combatants, submarines, and civilian merchant ships which is one of the great examples of CMI.⁶⁶

China Aerospace Science and Industry Corp (CASIC) produces Medium-Range Ballistic Missiles (MRBMs), SRBMs, SAMs; Cruise Missiles, SC-1 ASA. The People's Liberation Army Second Artillery (PLASA) and PLAN are their primary customers.⁶⁷ China Aerospace Science and Technology Corporation (CASC) produce Long March satellite launch vehicles (SLVs), DF-5, DF-11, DF-21, reconnaissance and communication satellites and manned space systems. China Aerospace Machinery and Electronics Corporation (CAMEC) produces the China Sanjiang Space Group (DF-11); Hangtian Tsinghua (Micro-and-nanosatellite).⁶⁸

⁶⁴Ibid.

⁶⁵Ibid.

⁶⁶Ibid.

⁶⁷Ibid.

⁶⁸Ibid.

Table 4 illustrates the PRC's main state-owned military corporations production since 1998 and their main products. These products demonstrate the PLA's "indigenous" military production capabilities. However, even with the acquisition organizational reforms and a steady increase in the PLA budget, China is still inefficient in its production and deficient in many key military technologies. This was addressed in 2010 by *The Washington Post*, "After a several-year break, China is placing a military sales order on Su-35 fighter with Russia, is planning to build an indigenous Chinese aircraft carrier; and procure the rights to build IL-476 military transport planes; IL-478 air refueling tankers and the S-400 air defense system."⁶⁹ The following section examines the key systems that have been procured by service.

⁶⁹John Pomfret, Staff Writer, "Military Strength is eluding China," *Washington Post*, 25 December 2010, "<http://www.washingtonpost.com/wp-dyn/content/article/2010/12/24/AR2010122403009.html> (accessed 28 September 2011).

Table 4. PRC's Main State-Owned Military Corporations Since 1998

Old Corporation	New Corporation	Main Products
Ministry of Electronics Industry	Ministry of information Technology and Telecom Industry (MTTI)	
China National Nuclear Corporation	China National Nuclear Corporation (CNNC)	
	China National Engineering Construction Corporation (CNEC)	
Aviation Industries of China (AVIC) (There are mid-2008 reports of a re-merger of these two groups)	China Aviation Industry Corporation 1 (AVIC 1)	Chengdu Aircraft (J-7, J-10, FC-1); Shenyang Aircraft (J-8, J-11); Guizhou Aviation (FT-7, UAVs); Xi'an Aircraft (H-6, JH-7, MA-60)
	China Aviation Industry Corporation 2 (AVIC 2)	Harbin Aircraft Industries Group (helicopters, light-transport aircraft); Shaanxi Aircraft (Y-8); Hongdu (K-8, L15); Changhe (helicopters); Chinese Special Vehicles Research Institute (WIG); Beijing university Aeronautics and Astronautics (UAVs, Virtual flight); Xi'an ASN (UAVs)
China North Industries Corp	China North Industries Group Corporation (CNIGC)	Has about 300 associated factories, research, and marketing groups. Responsible a broad range of Army equipment from small arms, ammo, artillery, antitank missiles, trucks, and Army support equipment. Also sells construction and transport machinery.
	China South Industries Group Corporation (CSIGC)	Has about seventy-six related organization. Produces cars, motors, and conducts research for military products
China State Shipbuilding Corp	China State Shipbuilding Corporation (CSSC)	Controls southern shipyards and naval enterprises in Guangdong, Jiangxi, Anhui, and Shanghai. Produces destroyers, frigates, ELINT ships, and a wide range of civil ships.
	China State Shipbuilding Industry Corporation (CSIC)	Controls northern yards in Yunnan, Dalian, Hubei, Tianjin, Shanxi, and Liaoning, along with about ninety-six associated enterprises. Produces destroyers, frigates, submarines, and a wide range of civil ships.
China Aerospace Corporation	China Aerospace Science and Industry Corp (CASIC)	Medium-range ballistic missiles (MRBMs), SRBMs, SAMs, Cruise Missiles, SC-1 ASAT
	China Aerospace Science and Technology Corporation (CASC)	Long March satellite launch vehicles (SLVs),: DF-5, DF-31, DF-21; reconnaissance and communication satellites; manned space systems
	China Aerospace Machinery and Electronics Corporation (CAMEC)	China Sanjiang Space Group (DF-11); Hantian Tsinghua (micro- and nanosatellites)

Source: Richard D. Fisher, *China's Military Modernization* (London: Praeger Security International, 2008), 98-99.

Arms Procurement by Service

Army procurement

Clearly stated in the Chinese 10th Five Year Plan (2001-2005) and the 11th Five Year Plan (2006-2011) are the ground forces armament readiness goals. Acquisition should focus on producing main battle tanks, infantry fighting vehicles and various types of lighter armored vehicles for amphibious, airborne and special forces. In addition, the PLA must update its helicopter assets, air defense systems and army logistics equipment. Digitizing and integrating satellites into current Command, Control, Communication, and Intelligence (C3I) assets in order to build smaller but more powerful mechanized and motorized infantry unit is also a priority. It has also been found that PLA is sufficiently funded to train and attract quality personnel.⁷⁰

In terms of main battle tank (MBT), the Director of the China North Vehicle Research Institute (part of Northern Industrial Company), Mao Ming, said

China's next generation tank would have two crew members, exploit advanced information connectivity, be capable to indirect fire, be armed with missiles, have an anti-aircraft capability and be light enough for air-lifted deployment, have modular payloads for varied missions.⁷¹

This demonstrates the PLA's ambition of conventional forces projection and land battlefield domination.

In addition to the MBTs, the primary assets procured and currently employed in the PLA ground forces are an armored personnel carrier (APC) and a modified WZ551 (6x6) all-weather wheeled Reconnaissance Armored Vehicle (RAV) which is capable of

⁷⁰Ibid., 6.

⁷¹Jane's Sentinel Security Assessment- China and Northeast Asia, "Procurement China," 17 January 2011.

transmitting real time communication to the chain of command. WZ551 is currently fielded in the 127th Light Mechanized Infantry Division, part of PLA's strategic mobile troops, that enhance the capability of combined operational command and control (C2).⁷²

In terms of light utility and combat vehicles the PLA purchased 2,100 BJ2022JC "Brave Warrior" light utility vehicles in 2007 from Beijing Automobile Works (BAW) and deployed half of them to the Fujian military district opposite Taiwan.⁷³ This type of vehicle performed well and was tested in Heilongjiang province and Tibet for high altitude conditions and cold temperatures and in Yunnan province for high humidity conditions and in Gansu province for dry conditions. This has shown that the PLA continues their focus on the issue of Taiwan, Tibet, Xinjiang and the China-Russia border security in the Heilongjiang region. Sources have shown that PLA special forces have trained with light utility and combat vehicles such as VN3 (4X4) that is helicopter transportable and air liftable, leading to speculation that they are of building rapidly deployable quick reaction forces for Tibet and Xinjiang, in addition to surprise assaults on Taiwan.⁷⁴

In terms of amphibious forces the PLA assets include type 63A amphibious tank, VN1/ZBD-09 amphibious armored personnel carrier, type 97/ ZBD97 amphibious infantry fighting vehicles, type 07B amphibious self-propelled artillery, and beach assault hovercraft. They all have one primary purpose of the conduct of amphibious landing

⁷²Ibid.

⁷³Ibid.

⁷⁴Ibid.

operation and are especially well suited for an attack on Taiwan and its offshore islands.⁷⁵

Artillery: PLA artillery to directly support the ground forces is different from the PLA Second Artillery whose primary task is to conduct and counter medium range and inter-theater ballistic missile attack and nuclear missile attack. The PLA's artillery has more than 17,000 high mobility and precision rocket and tube artillery weapons in addition to its conventional 122mm, 130mm, 152mm, and 155mm artillery pieces. The PLA has recently modified its older artillery rockets into more accurate short range ballistic missiles (SRBM) that could be guided by satellite and unmanned aerial vehicles (UAV).⁷⁶ Another artillery system is the A-300, a 300mm Multiple Launch Rocket System (MLRS) that is based on the Russian Smersh system. Based on the effective range of the PLA artillery assets, we could easily infer that the intention behind developing and procuring these weapons is not only to gain superior in any invasion of Taiwan, but also against any regional ground forces, especially Vietnam and India.

While belonging to the PLAAF, air defense systems also directly support the ground arm. A key area of PLA armament acquisition is air defense, C4ISR, army aviation, unmanned aerial vehicles (UAVs), and items to enhance the survivability of the infantry soldier. Air defense systems such as anti aircraft Artillery (AAAs), self propelled guns (SPAAGs), WZ501 self propelled gun-missiles (SPAAGMs) and PL-12 AAM

⁷⁵Ibid.

⁷⁶Ibid.

missile (SAM) system are primarily used to develop effective defenses against US, Japan and potentially Taiwanese precision guided weapons.⁷⁷

Conventional infantry weapon systems such as 12.7 mm anti-material rifles (AMRs), QLZ878 35mm grenade launching rifles are purchased to facilitate its close combat capability. Better lightweight clothing and body armor such as Kevlar vests and helmets are increasingly worn by soldiers.⁷⁸

One significant PLA upgrade being sought is the increased joint and combined arms capability among the services. The key factor of successfully doing so is to improve the command, control, communication, computer, intelligence, surveillance and reconnaissance (C4ISR) abilities. Several approaches have been taken by the PLA to achieve this goal. They include: (1) massive investment in its national fiber optic cable network to enable command, logistics and training; (2) utilizing satellite communication and high frequency radio to complement the computer network; (3) adopting the “digital soldier” concept for better combat capability; and (4) investing in information superiority to enhance information warfare and intelligence collecting ability.⁷⁹ According to the 2004 report on Chinese military power by the US Department of Defense (DoD) to Congress, China is steadily improving its C4I capabilities by using commercial information technologies to support military objectives in order to operate effectively during peace and wartime.

⁷⁷Ibid.

⁷⁸Ibid.

⁷⁹Ibid.

The development of new medium and heavy transport helicopters is also one of the highest priorities for the PLA. The reason is that medium and heavy transport helicopters can be tasked for both military operations and as a disaster relief enhancer. There were 24 Mi-17 series helicopters purchased in 2006 from Europe. In 2009, Eurocopter accepted China's request for developing multiple versions of the Z-15 helicopters.⁸⁰ In March 2010, Chinese reversed-engineered an equivalent Aerospatiale SA 321 Super Frelon (French) called Changhe Z-8 to the PLA service formation. In addition to buying medium and heavy utility and transport helicopters, the PLA has purchased the WZ-10 heavy attack helicopter from Europe in 2003.⁸¹

The PLA also pirated the Eurocopter's AS 350 into its own Changhe WZ-11, a scout/attack types of the Z-11 which is similar to the US OH-58. Medium and heavy helicopter transportation, aerial attack and training seem to be the three main acquisition concerns for the PLA Army aviation field.⁸²

The PLA has been showing particular interest in acquiring unmanned aerial vehicles. Nanjing Research Institute on Simulation Technique (NRIST) manufactured medium-endurance tactical UAVs that feature both vehicle and personal digital command systems for the PLA in 2005. The PLA's development started from very immature toy-type aerial vehicles. However, a report from the Chinese media in 2006 proved that the

⁸⁰Ibid.

⁸¹Ibid.

⁸²Ibid.

PLA has the capability of receiving video imaging from a small hand-launched delta-wing UAV.⁸³

Air Force procurement

The People's Liberation Army Air Force (PLAAF) has continued its ambitious modernization process from the 1990s. The ultimate goal is to build up the PLAAF offensive and defensive all-weather forces. There are three areas where the PLAAF is seeking to catch up to world standards: (1) long term production of fourth generation fighters; (2).development of indigenous fifth generation design; (3) development of large transportation aircraft equivalent to the Antonov or Ilyushin aircraft of Russian design.⁸⁴

The PLAAF's modernization approach involves aggressively purchasing foreign aircraft and developing indigenous programs. Foreign procurement of fighters includes Sukhoi Su-27SK/UBK and Su-30MKK, co-production of the Su-27 as the SAC (Shenyang) J-11. Current indigenous fighter programs include the XAC JH-7A (Xian), SAC J-7 and J-7G and CAC J-8. Both Chengdu and Shenyang Aircraft Corporations have fifth generation fighter programs in process.⁸⁵ In January 2011, the PLAAF flight tested its first stealth fighter, J-20, in Chengdu during US Defense Secretary Mr. Robert Gates' official visit to China. In addition to the political meaning and implication behind this significant event, it indeed revealed the PLAAF's ambition of pursuing a position among the world's premier air powers.

⁸³Ibid.

⁸⁴Ibid.

⁸⁵Ibid.

Information shows that the PLAAF combat fighter capabilities have increased from basic maneuverability, conventional munitions and limited strike range to greater operational ranges with air refueling capability, precision guided missiles and multiple combat functions. Some significant PLAAF's combat fighters include the J-7, FC-1 (lightweight fighter, speed to M1.8, range to 1,800 km), the J-10 (with radar detection range of 125 km, comparable to US F-16 BLOCK 30, able to fire active guided PL-12 Air to Air Missiles and Precision Guided Missiles, in-flight refueling capable), the J-8 (capable of air refueling, infrared search and tracking sensor, armed with new Luoyang PL-12 active guided AAMs), the J-11 (integrated with Su-27, more indigenous designs, true multirole capability), the JH-7 (fighter bomber, FT-1 satellite guided bomb, escort jamming role and suppression of enemy air defenses), the Q-5 (modern PGM truck, low-cost close air support platform), the LFC-16 (also known as CY-1, derived from FTC-2000 supersonic trainer, fly-by-wire control capability), and the Su-35 and Su-30MKK (most important attack aircraft, deployed in Nanjing and Guangzhou military regions for opposing Taiwan, threat to US forces at Okinawa due to extended operational range and loiter time, capable of refueling in flight, all weather operability, armed with PGMs and Vympel R-77 self-guided missiles).⁸⁶

The PLAAF's fifth generation fighters will likely be the J-20. The J-20 is the Chinese defined "qualified indigenous design aircraft" despite its controversial designing concept adopted from the Russians. China heavily applied the engine technologies knowledge learned from developing the fourth generation fighter to the J-20 project.⁸⁷

⁸⁶Ibid.

⁸⁷Ibid.

This is an indicator of China's self reliance on "indigenous design fifth generation aircraft." The successful development of the J-20 has also revealed not only the PRC's military intent of anti access and area denial but its interest in competing for international military aviation business.

Other than the fighters program, the PLAAF also dedicates developing effort to other air force assets such as bomber, transportation aircraft, aerial refueling tanker, C4ISR (electronic intelligence/ early warning/ reconnaissance aircraft), airborne early warning and control system (AWACS), unmanned aerial vehicles (UAVs), air defense assets, missile and weapons system (air-to-air) and trainers.⁸⁸ Some of them might have an "indigenous flavor," but most of them were either purchased complete from foreign countries, mainly Russia, or were modified from other similar foreign models.

By analyzing the featured capabilities of these air related assets such as strategic bombing, force projection, air refueling, homeland and strategic air defense, command, control, communication and intelligence collection, integrated early warning...etc, one can easily speculate that the PLAAF is building itself a much more robust force than simply meeting its defensive posture strategy which was stated in the 2011 China NDWP. One could argue that the more realistic military concept behind the PLAAF's aggressive armament acquisition of aircraft from both domestic procurement and foreign purchase is to resolve the Taiwan issue and stop a US forces from intervening.

Navy procurement

One area in which China is thought to have made the greatest advances is in its submarines, part of what is now the largest fleet of naval vessels in Asia. In

⁸⁸Ibid.

October 2006, a Chinese Song-class diesel-powered attack submarine reportedly shadowed the USS Kitty Hawk aircraft carrier and surfaced undetected four miles from the ship. Although the Pentagon never confirmed the report, it sparked concern that China could threaten the carriers that are at the heart of the US Navy's ability to project power.⁸⁹

The People's Liberation Army Navy (PLAN) armament acquisition outlined below comes in large part from information reported in *Jane's Sentinel Security Assessment: Northeast Asia*. The PLA emphasizes several aspects: new nuclear and conventional submarines, new classes of major surface combatants with significant forces projection capabilities, second generation SSNs and SSBNs. Besides this emphasis, the latest focus is on completing the first PLAN aircraft carrier project and its air wing. This new carrier was the former Ukraine *Varyag* and was purchased in 1997, but did not start the modification process until 2005.⁹⁰

The aircraft carrier is a remarkable military instrument. It redirects the way of warfare is conducted from two dimensions to three dimensions. It also integrates air power into maritime warfare. The aircraft carrier extends the force project to anywhere in the world. The carrier itself is not a deadly weapons system but the fire power and combat forces it carries, protects, and escorts does bring significant capability to the fight.

Aircraft carriers provide a country a significant strategic capability, for both military and political purposes. A powerful aircraft carrier battle group consists of air defense, anti-ship, anti-submarine, surface to shore strike and ballistic missiles attack

⁸⁹John Pomfret, Staff Writer, "Military Strength is eluding China," *Washington Post*, 25 December 2010, "<http://www.washingtonpost.com/wp-dyn/content/article/2010/12/24/AR2010122403009.html> (accessed 28 September 2011).

⁹⁰Jane's Sentinel Security Assessment- China and Northeast Asia, "Procurement China," 17 January 2011.

capabilities. These are decisive factors for modern sea warfare and showing the flag as a regional or global power. Countries with aircraft carriers in service such as the US, France, Britain and Spain...etc, can truly be identified as world class naval powers and this is the main reason why the PLAN is striving for its own. China does not need a carrier for conflict against Taiwan on in the South China Sea unless it wants to engage other than regional forces in the blue water environment.

With a nuclear weapons inventory, an aircraft carrier can project forces far from China's shores to pursue any vital national interests. Other naval assets that the PLAN has devoted much attention to are larger size (over 10,000 tons) destroyers that are armed with more SAMs, equipped with advanced Aegis equivalent radar and capabilities of providing amphibious landing fire support; frigates that are equivalent to the French Lafayette-class and capable of conducting anti-surface target engagement; light-weight corvettes with the capabilities of conducting anti-submarine warfare, short-range anti-air missile attack, electronic warfare and satellite communication; stealthy, high-speed fast attack craft (FAC), fast-ferry type patrol boats with stealthy coating, large enough to deliver ship-borne troops and helicopters and UAVs which can perform surveillance, targeting or defensive tasks.⁹¹

China is also pursuing a significant mine warfare force that could easily mine the waters around Taiwan to provide a blockade against its naval forces, disrupt economic activity and interdict the US and other allied forces from coming to aid Taiwan. China's pursuit of amphibious assault forces equipped with type 071s assault ships, type 081LHD assault helicopter, Zubr hovercraft, Type 63A amphibious tank, VN1/ ZBD-09

⁹¹Ibid.

amphibious Armor Personnel Carrier (APC), type 97/ ZBD97 amphibious Infantry Fighting Vehicles (IFV), ZTD-05/ ZBD-05 amphibious assault vehicles and 07B amphibious self-propelled artillery would also likely change the balance of power in the Taiwan Strait and complicate any conflict in the South China Sea.⁹²

Missiles and naval aviation also take a significant portion of the PLAN equipment investment. The PLAN has anti-ship ballistic missiles that can be used not only to intercept satellites but to deter US aircraft carriers. It has an anti-ship ballistic missiles such as the DF-21 (also known as “the carrier killer”) can range more than 2,000 km with extreme speed.⁹³ The US would have little chance to intercept it even with SM-2+ level anti-missile interceptors. It is believed that with Russian technologies, the PLAN anti-ship ballistic missile has gained the ability to receive data from satellites, UAVs and other guiding devices since 2010.⁹⁴ There are other anti-ship missiles that are giving the PLAN more capability to conduct anti-ship missions such as the 220 km range Novator 3M-54E that is armed with the new Kilo 636M SSGs featuring a supersonic second-stage to defeat ship defenses; YJ-62C long range anti-ship missile that resembles the US BGM-109 Tomahawk Land-Attack Cruise Missile (LACM)...etc.⁹⁵ According to Taiwan military sources, it is believed that the PLAN has deployed over 120 YJ62-C missiles at Fujian province opposite Taiwan.

⁹²Ibid.

⁹³Ibid.

⁹⁴Ibid.

⁹⁵Ibid.

The Sukhoi Su-30MKK2 attack fighters, Xian JH-7A fighter bomber, H-6 (Tu-16) bomber, Shenyang J-11BH fighters, Su-33KUB fighters, and navalized J-11B fighters and Chengdu J-10 fighters are the significant People's Liberation Army Navy Air Force (PLANAF) combat aircraft.⁹⁶ The primary intent of the PLANAF is to either purchase or modify them to conduct anti-ship operations from either ground-based or carrier based means. It is also critical to consider the PLANAF's acquisition of the fifth generation fighters. A quote from the PLAAF General He Weirong in November 2009 stated, "Such fighters (the fifth generation fighters) could be entering PLANAF units by 2017 to 2019. Around this time, the PLAN may then be building its first nuclear powered aircraft carrier, which would be an attractive candidate for deployment of a navalized version of China's fifth generation fighters."⁹⁷ Table 5 illustrated the major foreign military procurement from 1999 to 2007.

⁹⁶Ibid.

⁹⁷Ibid.

Table 5. Major Foreign Conventional Military Procurement

Type	Manufacturer	Role	Quantity	Origin	First Delivery
Sovremenny 956EM	n/a	Destroyer - Missile	2	Russia	2007
S-300PMU-2	n/a	Surface-to-Air Missile	4	Russia	2005
'Kilo' 636M	Rubin	Submarine - Diesel	8	Russia	2005
Su-30MKK2	Sukhoi	Strike Fighter	48	Russia	2002
R-77	Vympel	Air-to-Air Missile	200	Russia	2002
Kh-29	Molniya	Air-to-Surface Missile	2,000	Russia	2002
Kh-55	Novator	LACM	6	Russia / Ukraine	2001
KAB-1500kr	Region	Guided Bomb	n/a	Russia	2002
A-50	Beriev	AWACS	1	Russia	2002
Shtil	n/a	Surface-to-Air Missile	n/a	Russia	2000
Su-30MKK	Sukhoi	Strike Fighter	76	Russia	1999

Source: John Pomfret, Staff Writer, “Military Strength is eluding China,” *Washington Post*, 25 December 2010, “<http://www.washingtonpost.com/wp-dyn/content/article/2010/12/24/AR2010122403009.html> (accessed 28 September 2011).

Over the past two decades, the PLA’s force improvement and modernization has benefited from advanced foreign military technologies, weapon systems, platforms and training. These weaponries are primarily from the former Union of Soviet Socialist Republics (USSR) and Russia after the collapsed of the USSR in 1991. Research made by Dr. Chen Hanhua with the Republic of China Taiwan National Security Council has pointed out that the balance of military power in the Pacific region will soon be broken by the PLA’s rapid, wide-ranging military improvement.⁹⁸ This will jeopardize the capabilities of the US military to intervene in regional affairs.⁹⁹ In March 1986, the PRC

⁹⁸陳漢華，“短期內中共科技在國防安全面向的趨勢評估[Dr. Chen Han-Hua, The assessment of People of Republic China’s National defense technologies application in the near term, 中華民國外交部[Republic Of China Ministry of Foreign Affairs], 13 August 2004.

⁹⁹Ibid.

announced the “National High Technology Research and Develop Program” (also known as “the 863 program”). The purpose of this program was to integrate foreign technologies into its indigenous development. Its primary focus was biotechnology, space technology, information technology, laser technology, automation control technology, energy technology and advanced material science technology.¹⁰⁰ This thesis will show that these technologies can push China far beyond the concept of “Defensive Offense”, “Active Defense,” or “Defensive in Nature” in terms of its national military strategy.

Supporting relation of China’s strategy (ends)
to its armament acquisition (means)

The above discussion of China's foreign purchases and indigenous procurement highlights the vast improvements in the PRC's armed forces in the last two decades. The table below provides a quick guide to how these acquisitions support the two strategies. Table 6 illustrates the support relations between overall military armament acquisition and strategy which derives from US perspective and China perspective. US and China both have four different major strategies (ends) and most of them are well supported by assets that China has or will acquire. Chapter 5 analyzes and provides conclusions in terms of the strategy to acquisition nexus.

¹⁰⁰Ibid.

Table 6. Supporting Relation of China's strategy (ends)
to its armament acquisition (means)

	US perspective		China perspective	
	support	Strategy	support	Strategy
PLA acquisitions:	Yes	Anti access/aerial denial	Yes	Safeguarding national sovereignty
	No	Strategic Capabilities	Yes	Maintaining social harmony and stability
	No	Power Projection	Yes	Force modernization
	No	Extend operational reach	Yes	Participating in UN peace-keeping operations
PLAN acquisitions	Yes	Anti access/aerial denial	Yes	Safeguarding national sovereignty
	Yes	Strategic Capabilities	No	Maintaining social harmony and stability
	Yes	Power Projection	Yes	Force modernization
	Yes	Extend operational reach	Yes	Participating in UN peace-keeping operations
PLAAF acquisitions	Yes	Anti access/aerial denial	Yes	Safeguarding national sovereignty
	Yes	Strategic Capabilities	Yes	Maintaining social harmony and stability
	Yes	Power Projection	Yes	Force modernization
	Yes	Extend operational reach	No	Participating in UN peace-keeping operations
PLASA acquisitions (other strategic assets acquisitions)	Yes	Anti access/aerial denial	Yes	Safeguarding national sovereignty
	Yes	Strategic Capabilities	No	Maintaining social harmony and stability
	Yes	Power Projection	Yes	Force modernization
	Yes	Extend operational reach	No	Participating in UN peace-keeping operations

Source: Created by author.

CHAPTER 5

CONCLUSIONS

The purpose of this thesis is to ascertain the relationship between China's military strategy and its armament acquisition program. This was accomplished by analyzing its military strategy, current order of battle (ORBAT), PLA organizational structure and reforms, foreign weapons purchased, and domestic armaments produced. China's defense expenditures increased 258 percent from 2001 to 2007 in order to maintain its 2.25 million man force and the transformation process.¹⁰¹ In the 1980s and early 1990s China's modernization was characterized by a lack of momentum and very limited progress before its economy truly opened up to the global marketplace. Its financial strength through the early 1990s was not sufficient to purchase the technically advanced systems it required to modernize.

Although the idea of a large-scale PLA force modernization was mentioned many times by China's national political and military leadership, it was simply not affordable. However, reinforced by the US military success during the Gulf War in 1991 and consistent economic growth of approximately 10% per year, the PLA added impetus to its transformation process. The concept of transforming the PLA into a competent, modernized force to ensure the nation's global standing has been supported by both party and military leaders. To achieve this goal the acquisition of advanced weapons, technologies, systems and other sophisticated military assets has been the driving force. The rest of this chapter is organized into four brief sub-sections: a summary of findings;

¹⁰¹Richard D. Fisher, *China's Military Modernization-Building For Regional And Global Reach* (London: Praeger Security International, 2008), 16.

implications; areas for future research; and, final thoughts. The key question to be answered is whether China's modernization program is consistent with its "active defense" policy or is it pursuing a more "active offense" policy.

China's rising power and influence, economically and militarily are indeed increasing regional concerns. Due to the limited transparency of governmental information more uncertainties are generated. Is China a believer in peaceful development through partnering and collaborating with other nations? Or does it have a hegemonic mindset bent on expanding its national influence first regionally, and then globally? This paper's conclusion argues the PLA's force modernization and armament acquisition plan support the idea that China is seeking the military assets to enhance its more offensive national military strategy. This is more in keeping with the strategy outlined in the US DoD Report to Congress.

Summary of findings

The apparent ends (objectives) for the PLA's armament acquisition plan are: sustainable force projection beyond the second island chain to ensure China's global interests; strategic deterrence to prevent other regional or global powers from undermining China's influence within the Asia Pacific region; secure the international land and sea lines of communication to ensure the flow of natural resources to and exports from China; effectively resolve the Taiwan and other sovereignty issues on Beijing's terms; and, dominate the cyber and space warfare arenas. China's force projection concept was first brought to the attention of the world by President Hu Jintao in 2004. He addressed that "the PLA must provide a security guarantee for national

interests.¹⁰² China intends to project its forces including air, maritime, space and cyber into the global arena. China has and will use procurement, both foreign and domestic, to enhance its capabilities.

Implications

Several implications obtained from the analysis in chapter 3 and 4 are highlighted as followed: (1) a increasing military competition in the Asia-Pacific region; (2) PLA's transitioning from "active defense" to a more offensive posture; (3) China will utilize its global economic influence to enhance its military acquisition process. In November 2011, President Obama announced the US will permanently station 500 to 2,500 Marines at Darwin Australia beginning in 2012. As the US forces withdraw from Iraq and Afghanistan, it is assessed that the Asia Pacific region is the next area of focus. US Secretary of State Hillary Clinton also reaffirmed US support to Philippines over the South China Sea territorial dispute. These policies led to speculation of that the US is increasing its military presence in this area to contain China's military expansion.

One could argue that China's military acquisition and organizational structure are supporting its defensive strategy like anti-access/ area denial assets and the defensive orientation of the seven military MRs. However, a large portion of its acquisition is not ground oriented and does support a more offensive posture. Aircraft carriers, long range bombers, nuclear attack submarines armed with ballistic missiles, solid fuel intercontinental ballistic missiles (ICBMs) are all offensive systems. Outwardly this acquisition still falls in the concept of "active defense", but now China is developing the

¹⁰²Richard D. Fisher, *China's Military Modernization-Building For Regional And Global Reach* (London: Praeger Security International, 2008), 171.

capability to take the initiative to support the concept of “active offense.” Once the PLAN and PLAAF have achieved their modernization goals, a more robust ground force can be built beyond the small strategic reaction forces and amphibious forces currently being upgraded. After all, ground forces are critical to conventional warfare and to sustain operational success.

China’s military modernization was impacted by the US and EU arms sale embargo due to China’s human rights record, particularly the 1989 Tiananmen Square massacre. However, evidence has shown that China is attempting to use its economic influence to pursue a more open weapons market with the EU. The EU countries currently facing economic difficulties could be provided assistance by China in return for an opening up of the arms European market. Besides being the largest foreign holder of US treasurer notes, China recently agreed to provide financial aid in the EU’s ongoing economic crisis. These actions imply that China’s economic strength is most likely to enhance its military modernization. i.e. Other nation’s economic survivability may outweigh a continued arms embargo against China.

Areas for future research

China’s armament acquisitions logically and practically support its more aggressive military strategy, however, this acquisition is costly. China has significant internal problems such as environmental issues from over development, a growing poverty gap, and ethnic unrest that have the potential to undermine both its economic growth and political stability.

There are some challenges China is facing or will encounter in the future that could crucially impact its military strategy and thus effect its military equipment

acquisition plan. China's first challenge is to maintain steady economic growth while fighting corruption and reducing the poverty gap between big cities like Shanghai and rural regions like Sichuan. The second challenge is to manage and diminish the potential for instability impact from the growing demands for democracy and civil rights such as freedom of speech, religion and a fair trial system. The third challenge is to build a proper relationship with US and other democratic nations without contradicting its fundamental socialist beliefs. The fourth challenge is to resolve the differences on the Taiwan issue. The overall challenge for China is a balancing act between internal and external issues addressed above without undermining the extent and pace of its military modernization. These issues will compete against the PRC's social needs for funding, resources and a global policy and posture of a status quo power.

Final thoughts

There are two schools of thought on China's armament acquisition over the past decades. The first one is those people with a positive view that welcome China's military modernization with the hope that China will share international responsibilities as a major power. The second school is those people with negative view and fears that China is preparing its military for aggressive motives far beyond its stated "active defense" concept. Nevertheless, over estimating and over reacting to China's military preparations could generate actions and activities that could lead to miscalculation. Unfortunately, the opaque nature of the PRC governmental information does not provide sufficient clarity to truly understand China's objectives and intentions. A famous quote in the book of *Art of War* by Sunzi (Sun Tzu) stated that "know your enemy, know yourself and you can win every battle" is appropriate to remember. It is necessary to continue to collect information

and develop predictive intelligence on China's armament acquisition and its logical linkage to its evolving national strategy. The end sought is a clearer picture of China's genuine intentions and true capabilities.

In Thomas L. Friedman's *The Lexus and the Olive Tree*, "Globalization is not just a phenomenon and not just a passing trend. It is the international system that replaced the Cold War system. Globalization is the integration of capital, technology, and information across national borders, in a way that is creating a single global market and, to some degree, a global village." The relationship between China's armament acquisition plan and its military strategic thinking is a good reflection of this globalization concept. China has globalized the way it acquires its armaments. China must increase foreign weapons purchases and domestic armaments production to support its military ends.

China's military acquisitions not only raise concerns for regional players such as Russia, Japan, Korea, India, and Vietnam, but also for other global powers such as the US and EU. This is not only due to the interdependence of the global economy, and China is part of this, but with Beijing's military acquisition plan, it is now developing a global military capability within a concept of "active offense"

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